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Openness, Institutions, and Policies: Determinants of Globalisation and Economic Growth in Developing Countries

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Globalisation describes the increasing integration of national economies through international trade, capital transfers, and the exchange of information or knowledge. This paper focuses exclusively on trade integration. Most economists hold that reducing trade barriers has a decisive positive effect on economic growth and poverty reduction ("openness hypothesis"). However, some economists diagnose deficient or weakly enforced non-market institutions as the major cause of slow growth. The main goal of this paper is to show that these two seemingly contrary points of view do not exclude each other. Openness is not only influenced by trade policy but also by other policies and the quality of institutions. Available data show a high negative correlation between the logarithm of tariff rates and indicators of the quality of institutions. Cross-national growth regressions demonstrate that the explanatory power of trade protection and a combined measure of openness, on the one hand, and institutional quality, on the other hand, is comparable. Therefore, it is concluded that liberal trade policies are recommendable, but must be complemented by sound macroeconomic management, micro-policy to strengthen domestic competition, and institutional improvements.

I. INTRODUCTION

In the 1990s the term globalisation has become the expression en vogue to describe the increasing integration of national economies through cross-border transactions. Integration usually refers to the international trade of goods and services, to private cross-border capital flows, and to the worldwide exchange of knowledge or information.[1] The accelerated globalisation in the 1990s has initiated

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[1]In principle, globalisation also comprises temporary or permanent migration. However, for various reasons this issue is by and large neglected in the globalisation debate and dealt with in specific studies on migration. It is not discussed in this paper.

an intensive debate on its impact on economic growth and poverty reduction in developing countries. The following discussion focuses exclusively on integration through trade. The role of capital market integration and the increasing exchange of information and knowledge, hardly separable from trade integration, are not explicitly considered.

Most economists hold the opinion that reducing barriers to economic integration have a positive effect on economic growth and poverty reduction. This view is often termed the "openness hypothesis", which interprets liberal regimes of international transactions as a major *cause* of higher rates of economic growth and poverty reduction. As the struggle for reducing trade restrictions under the umbrella of the World Trade Organisation (WTO) illustrates, the presumed role of free trade is the most controversial issue. During the last decades, many developing countries have followed a strategy of import substituting industrialisation (ISI) with high trade barriers. Proponents of the openness school of thought see the reluctance to reduce tariff and non-tariff trade barriers in these economies as a major impediment to economic growth and poverty reduction.

Not all economists share this view. Instead of "closed-economy pathology" some economists diagnose "corruption pathology" as the major cause of slow growth and persistent poverty. Corruption pathology refers to deficient or weakly enforced non-market institutions. The protection of property rights, the enforcement of rule of law, a "clean" (non-corrupt) bureaucracy, and democratic checks and balances are well known examples of institutional settings that are inappropriate or weak in many developing countries. Political leaders use such deficient institutions to enrich themselves and their cronies. In the long run corruption and rent-seeking behaviour becomes a negative-sum process, which acts as a drag on economic growth. Proponents of the institutional hypothesis argue that well-defined and enforced institutions are major determinants of growth and poverty reduction, which *subsequently* leads to liberalisation of international transactions. Therefore institutional reforms are recommended, while trade policy is not high on the reform agenda.

The two hypotheses have been tested in several recent papers using cross-national data.[2] On the one hand Dollar (1992); Sachs and Warner (1995); Edwards (1998); Frankel and Romer (1999) and Dollar and Kraay (2001, 2001a, 2003) conclude that trade policy and openness are important determinants of economic growth. On the other hand Knack and Keefer (1995); Rodrik (1998); Acemoglu, Johnson and Robinson (2001); Rodrik, Subramanian and Trebbi (2002) and Easterly and Levine (2002) come to the conclusion that the quality of institutions is an outstanding determinant of growth and "trumps" openness [and "geography", a conclusion contradicted by Sachs (2003)].

[2]It goes without saying that this list of papers is only a selection of studies on the issue.

The paper at hand focuses mainly on the impact of openness and *trade policy* on economic growth in the *medium run*. Most of the studies quoted above have a slightly different focus and will therefore not be discussed in detail. The papers of Acemoglu, Johnson and Robinson (2001); Rodrik, Subramanian and Trebbi (2002) and Easterly and Levine (2002) use the level of per capita income as the dependent variable. In other words, they have a very long run perspective. Rodrik, Subramanian and Trebbi (2002) argue correctly that policy variables should not be used to explain the level of income. Policies are a sort of flow variables that affect income growth. As policies are not observed in the very long run, and as not all policies are "accumulated" in institutions (level variables), they cannot be used to explain income levels.[3]

The studies of Edwards (1998); Frankel and Romer (1999) and Dollar and Kraay (2001, 2001a, 2003) concentrate on testing the impact of globalisation on economic growth. Globalisation is measured as the trade share (exports plus imports divided by the gross domestic product, GDP).[4] However, although the authors recommend liberal trade policy, they do not test the impact of trade policy (via globalisation) on growth. That is a disadvantage in the sense that not only trade policy but also other policies and institutions may affect globalisation. Hence, the effect of trade policy on growth, which is at the heart of the debate between the openness school of thought and the institutional school of thought, is not clarified in these studies.

The following discussion therefore starts with the papers of Sachs and Warner (1995), proponents of the openness hypothesis, and Rodrik (1998), the probably most outspoken critic of the openness school of thought and proponent of the institutional hypothesis. The main goal of this discussion is to show that the two seemingly antagonistic points of view do not necessarily exclude each other. It is argued that empirical tests of the two models discussed suffer from conceptual weaknesses, that they possibly tell the same story from different angles, and that it makes sense to promote trade liberalisation and institutional reforms simultaneously. The paper is structured as follows. Section II explains the theoretical position of the openness school of thought and the pros and cons of the empirical evidence found by Sachs and Warner. Section III discusses the alternative growth explanation proposed by the institutional school of thought, based on a model of Rodrik (1998). Section IV illustrates that protective trade policies and low quality institutions correlate, and that Rodrik's model specification can be reformulated to support the openness hypothesis. Section V contains conclusions.

[3]This explains the insignificant parameters of policy variables found by Easterly and Levine (2002).

[4]Dollar and Kraay (2001) use foreign direct investment (FDI/GDP) as an additional measure of globalisation, which turns out to be highly significant. Trade shares and FDI shares are so highly correlated that parameters become insignificant when both variables enter the equation.

II. OPENNESS AND ECONOMIC GROWTH

The concept of openness suggests that economies benefit from international trade, international capital transactions, and the international exchange of knowledge and information. The lower the barriers to international transactions, the higher the level of integration and the benefits. Regarding trade, the openness argument is based on two theoretical pillars: classical trade theory and "new" trade theory. Classical trade theory predicts static gains from trade if countries produce and exchange goods according to their comparative advantages. New trade theory predicts dynamic gains, i.e. more openness leads not only to a one-time increase of the level of income, but higher growth rates. Contrary to the rather restrictive assumptions of the classical model, the assumptions of new trade theory are much more realistic. New trade theory takes into account imperfect competition, increasing returns to scale, and changing technology [Romer (1986)].

According to new trade theory the impact of openness on growth works through different channels [Irwin (2002), p. 29 ff]. In an open economy enterprises face competition and have larger markets, which brings down prices and costs through market-enforced discipline and economies of scale. Trade and contact with foreign enterprises provide access to knowledge of new product and production styles, either through technology embodied in imports or through foreign direct investment.

Countries that follow an ISI strategy suffer not only from losing static and dynamic benefits directly caused by tariffs and non-tariff barriers. High trade restrictions tend to produce exchange rate appreciations and inflation in the non-tradable sector. As a consequence, producers of tradable goods and services are discriminated, and economies become more vulnerable to external shocks. Erroneous fiscal, monetary, and exchange rate policies may amplify these effects. In addition, trade protection creates interest groups that lobby for maintaining and extending these and similar government interventions [Hirschman (1968)]. That process is exacerbated if, as observed in many developing countries, ISI policy is accompanied by state-lead industrialisation (SLI), which offers numerous opportunities and incentives to capture unproductive incomes. Proponents of the openness hypothesis suspect that trade restrictions encourage or initiate broad-based rent-seeking behaviour and corruption, which act as a drag on growth [Krueger (1974); Mauro (1995)].

The Sachs-Warner Study

Sachs and Warner analyse the presumed linkage between openness and growth performance for 79 countries for the period 1970–1989. They construct an openness index of five indicators, which reflect various policy variables that influence the openness of an economy. An economy is closed if one or more of the following conditions are given:

— average tariff rates on imports of intermediate and capital goods (trade-weighted) are 40 percent or higher (average during the second half of the1980s);
— non-tariff barriers cover 40 percent or more imports of intermediate and capital goods (average during the 1970s and 1980s);[5]
— a black market exchange rate is depreciated by 20 percent or more relative to the official exchange rate (average during the 1970s or the 1980s);
— a socialist economic system (as defined by Kornai 1992) prevails;
— the state has a monopoly on major exports.

The openness index is a binary variable, which comes out as a significant and sizeable determinant of economic growth. In regressions with varying control variables average annual per capita GDP growth turns out to be 2.2–2.4 percentage points higher in open economies than in closed economies.

Critical Discussion

The Sachs-Warner study has two weaknesses. First, the binary representation of openness is not satisfying. The very idea of openness suggests gradual differences over time and between countries, and therefore a continuous index would be preferable. The numerical limits to distinguish between open and closed economies, i.e. 40 percent for the two import protection indicators and 20 percent for the black market premium, are arbitrary (as the authors admit themselves). Even the indicators for state export monopolies and for the existence of a socialist system are rather crude representations of the diversity found in the real world.

Second, the combined Sachs-Warner index blurs the effect of trade policy on economic growth. Rodriguez and Rodrik (1999-2000) argue correctly that only two of the five indicators, the tariff rate and the coverage of quantitative import restrictions, are acceptable indicators of trade policy. The other three indicators, the black market premium on foreign exchange, the state monopoly for major exports, and the classification as a socialist country, reflect policies and institutional characteristics that have nothing to do with trade policy. Moreover, Rodriguez and Rodrik regress income growth on the five indicators as *separate* explanatory variables, and show that income growth is above all explained by the state monopoly and the black market premium—the trade policy indicators are statistically insignificant.

Rodriguez and Rodrik accept the basic idea that the black market premium and export state monopolies impede trade. Overvalued exchange rates and the practice of state marketing boards to administer producer prices below world market prices have an effect comparable to an outright export tax. However, the authors

[5]Of course, the authors are aware of the well-known imperfections of these indicators of trade restrictions.

argue that these are outcomes of failed macroeconomic and structural policies, not outcomes of trade policies.[6]

> "We conclude that the Sachs-Warner indicator serves as a proxy for a wide range of policy and institutional differences, and that it yields an upwardly-biased estimate of the effects of trade restrictions proper" [Rodriguez and Rodrik (1999), p. 25 of the electronic version of the paper, revised in May 2000, on Rodrik's homepage].

The difference between the Sachs-Warner view and the Rodriguez-Rodrik view is obvious. Sachs and Warner see openness from a *broad* policy perspective and try to identify several policies that affect trade shares. Rodriguez and Rodrik have a *narrow* policy perspective. Much speaks in favour of the broad interpretation of openness. Tariffs and non-tariff barriers are arguably very important determinants of openness, but only one type of incentives or disincentives to free trade. Trade shares may also be influenced by other policy variables and by institutional settings. Therefore it makes sense to distinguish between what may be called "openness policy" and trade policy, the latter being an important part of the former. However, it is obvious that a broader concept of openness policy is difficult to define: where does it end? [See also Baldwin (2003)].

The Sachs-Warner results on the role of openness would be more convincing if there were a causal link from trade policy to other policies—in their model to exchange rate policy and the establishment of state export monopolies. In the tradition of the openness school of thought (and criticism of ISI policies) Sachs and Warner make the assumption that such a link exists. They suggest that high levels of trade protection have contributed in the 1970s to increased vulnerability and economic instability, and to the implementation of policies that have not cured but exacerbated economic instability. However, they do not test this hypothesis, and Rodriguez and Rodrik do not share this view.

> "We do not pretend to have a good answer to the question whether it is macroeconomic and political distress that drive trade policy or the other way round. The Sachs-Warner view is that causality goes from restrictive trade policies to macroeconomic instability (personal communication with Sachs). For the purpose of the present paper, we are agnostic about the existence or direction of any causality. An argument that macroeconomic imbalances are largely unrelated to trade policies is not difficult to make, and receives considerable support from cross-national evidence" [Rodriguez

[6]In addition, Rodriguez and Rodrik criticise correctly that Sachs and Warner had only state monopoly data available for Sub-Saharan African countries with ongoing adjustment programmes. Countries in Africa without adjustment programmes, and countries elsewhere in the world with possibly similar reform policies, escaped the scrutiny of Sachs and Warner. It is obvious that this lack of data results in a selection bias—although it seems not very likely that its elimination would significantly change estimation results.

and Rodrik (1999), p. 35 of the electronic version of the paper (revised May 2000) on Rodrik's homepage].

The term "agnostic" is a rather euphemistic description of Rodrik's sanguine view of ISI policies. In several papers [Rodrik (1997, 1998, 2001)] he expresses the view that "ISI worked rather well for a period of about two decades" [Rodrik (1997), p. 2], although he admits in Hausmann and Rodrik [(2002), p. 17ff] that trade protection must be temporary and is not an efficient way to promote innovation. Nonetheless, Rodrik thinks that critics of ISI, who blame trade barriers as a major cause of the deplorable growth performance of many developing countries since the second half of the 1970s, got the whole story wrong:

> "The bottom line is that in those countries that experienced a debt crisis, the crisis was the product of monetary and fiscal policies that were incompatible with sustainable external balances: there was too little expenditure reducing and expenditure switching. Trade and industrial policies had very little to do with bringing on the crisis" [Rodrik (2001), p. 18].

III. INSTITUTIONS AND ECONOMIC GROWTH

The institutional school of thought suggests that the quality of institutions determines growth performance not only in the long run but also in the medium run. To a large extent this hypothesis gained momentum after many developing countries had accomplished considerable macroeconomic and microeconomic reforms during the 1980s, which often failed to fully achieve expected outcomes. Progress in income growth and poverty reduction was in many countries rather limited. Today it is broadly agreed that, apart from macroeconomic stability and functioning markets, the "rules of the game" play an important role [North (1990, 1994)]. In countries with low quality institutions the policy reforms of the 1980s are seen as a move towards a set of necessary but not sufficient conditions to secure sustained growth. Consequently, the "second wave" of reforms puts a strong emphasis on improving the quality of institutions.

The Rodrik Study

Rodrik's alternative explanation of the economic crisis and low growth rates after the mid 1970s concentrates on three determinants: external shocks, latent social conflicts, and institutions of conflict management.

> "Heuristically, the core idea ... can be summarized by the following formula:
>
> Δgrowth = – external shock $*$ latent social conflict/institutions of conflict management

In words, the effect of shocks on growth is larger the greater the latent social conflicts in an economy and the weaker its institutions of conflict management". [Rodrik (1998), p. 2; August 1998 version of the paper on Rodrik's homepage].

Rodrik uses the following indicators to test this model. Δgrowth is the difference between the per capita growth rate 1960–75 and 1975–89. External shock is the standard deviation of the first log-differences of the terms of trade (during 1971–80) multiplied with the average trade share during 1970-74. Latent social conflicts are approximated by three alternative indicators: income inequality (Gini-coefficient), ethnic and linguistic fragmentation, and social trust. Institutions of conflict management are approximated by seven alternative indicators: civil liberties and political rights, corruption, efficiency of bureaucracy, rule of law, competitiveness of political participation, public spending on social insurance, and a combined indicator of the quality of institutions. In addition the equations include the per capita growth rate 1960–75 and the log of per capita income in 1975 to capture trend and convergence effects, as well as dummy variables for East Asia, Latin America and Sub-Saharan Africa to capture regional fixed effects.

Rodrik's regression results lend considerable empirical support to this model. Above all, the parameters for the alternative conflict and institutional indicators are significant at the 95 percent or 99 percent level. Of the many alternatives tested by Rodrik one regression stands out as a sort of core equation. It includes ethnic and linguistic fractionalisation as a measure of latent social conflict, and his combined institutional indicator as a measure of conflict management. The sample size is 90 countries, all variables except the external shock are significant, and the regression explains about 60 percent of the variance. In the end, Rodrik concludes:

> "The results of this paper indicate that participatory and democratic institutions, the rule of law, and social insurance are all components of a strategy to enhance resilience to volatility in the external environment" [Rodrik (1998), p. 28].

In addition to testing different conflict and institutional indicators Rodrik examines the possible role of other variables: the Sachs-Warner index of openness as a policy indicator, the average export share of GDP 1970-74 as an indicator of world market integration, the average tariff rate on intermediate imports as a trade policy indicator, the debt-export ratio 1975 as an indicator of international indebtedness, and the average share of government consumption in GDP 1970-74. Except for government consumption none of these variables turns out to be significant when added to the equation as a substitute for conflict management indicators. Government consumption has the expected negative sign and is significant at the 90 percent level. The Sachs-Warner index is significant at the 90 percent level when the combined conflict indicator is dropped.

Finally, Rodrik analyses the role of macroeconomic mismanagement after 1975 by including a composite ("bad policy") index of increases of inflation and the black market premium for foreign currency between the two periods. This index substitutes for the latent conflict and conflict management variables, and turns out to be highly significant (t-statistic exceeding 6). Regressions of the "bad policy" index

with latent conflict and conflict management indicators show high correlations, above all with the combined institutional indicator (R = 0.7). Rodrik comments these results as follows:

> "Income inequality, democracy, institutional quality, and a composite measure of social conflict all turn out to be strongly correlated with "bad policy". Countries with greater inequality and social conflict were significantly worse at managing the macroeconomy, while countries with democratic and high-quality governmental institutions were better. Among our main indicators, the only one that does not enter with a significant coefficient is ELF60[7]; it has the right sign, but is insignificant at conventional levels" [Rodrik (1998), p. 27].

Critical Discussion

A closer look at Rodrik's model raises a fundamental conceptual question. Is the *rationale* of his hypothesis—latent conflicts and weak institutions of conflict resolution lead to "bad policies" and reduced growth performance—really convincing? Rodrik's preferred way to exemplify the rationale of his hypothesis is a country comparison between South Korea, Turkey, and Brazil [Rodrik (1998), p. 7 ff; Rodrik (1997), p. 6 ff]. All three countries were hit by external shocks in the 1970s, but the policy reactions were very different. Korea overcame the crisis in short time with an orthodox adjustment programme. Immediately after the signs of a balance of payments crisis became visible, the authorities allowed for a devaluation of the Won, tightened fiscal and monetary policy, and launched a structural reform programme to improve the efficiency of the economy. After about one year of moderate inflation and recession the country was back on a sustainable growth path.

Turkey responded to the terms of trade losses after 1973-74 with heavy external borrowing, which resulted in an unsustainable debt situation in the 1980s. Although the authorities subsequently corrected some of the macroeconomic imbalances they never fully succeeded in recovering stability. The devaluation of the Turkish Lira was followed by a massive decline of real wages and rural-urban terms of trade, and incomes were transferred away from farmers and workers to the public sector. According to Rodrik, this legacy of distributional conflicts largely explains the high inflation and economic underperformance of the country since the early 1980s.

In the case of Brazil Rodrik argues that it was mainly the formal wage indexation and other forms of wage-price stickiness that prevented the authorities from implementing an orthodox adjustment programme in the 1980s. Given these rigidities, Rodrik concludes, the costs of adjustment in terms of output losses would have been very high. As a consequence, Brazilian authorities tried fiscal and monetary restraint only half-heartedly. The country went into an accelerating

[7]Ethnic and linguistic fractionalisation in 1960.

devaluation-inflation spiral and a more or less continuous decline of per capita income, which only ended after 1994 with the Real plan.

Rodrik's comparative sounds rather convincing at first sight, but at a closer look it is difficult to understand why and how the institutional weaknesses exemplified for three countries, and approximated in his econometric model, should determine the different policy choices. First, it must be noted that the institutional settings in the three countries, as described by indicators used in Rodrik's estimates, hardly support his hypothesis. Table 1 illustrates that the quality of institutions in Korea was not higher, perhaps even lower, than in both Brazil and Turkey (the Netherlands and New Zealand are added to the table as benchmarks for comparative purposes). And it is hard to believe that the latent social conflicts, which are higher in Brazil and Turkey than in Korea, but comparable to those in the Netherlands and New Zealand, should make a big difference. Whatever the fuzziness of the indicators, they are not very helpful to corroborate Rodrik's story.

Table 1

Quality of Institutions in Korea, Brazil, and Turkey (1980s)

Country	Ethno-linguistic Fractionalisation	Index of Democracy	Rule of Law	Corruption
Korea, Republic of	0	5	3	2.375
Brazil	0.05578	5	4	3.875
Turkey	0.16357	3	3	2.875
The Netherlands	0.06344	1	6	6
New Zealand	0.14757	1	6	6

Source: Easterly and Levine (1996).

Second, and more important, Rodrik's model raises the conceptual question of why deficient democratic institutions, insecure property rights, widespread corruption, and weak rule of law should prevent a government from implementing an orthodox adjustment programme. Of course, any government is tempted to avoid such an unpopular move. Politicians have usually a relative short time horizon. It is certainly reasonable to assume that the reluctance to implement adjustment policies increases with the anticipated short-term burden of adjustment, and that has not much to do with the institutions to which Rodrik refers. The burden of adjustment is determined by two factors: the size of the external shock on the one hand (relative to a country's GDP), and the responsiveness of the economy to adjustment policies on the other hand. From that point of view, democracy, secure property rights, a clean bureaucracy, and strong rule of law are hardly necessary preconditions to successful adjustment.

Based on this reasoning the story of the three country examples can be told from the point of view of the openness school of thought, which puts trade policy and its longer-term impact at the centre. When the external shock hit Korea, the country had already developed a competitive industry, which responded to the devaluation of the Won and the structural reforms with substantial output growth. Within short time expenditure switching effects and expansive responses to structural adjustments overcame the temporary output losses resulting from expenditure reduction. Rodrik would be hard pressed to deny that the competitiveness of the industry was a valuable asset in the time of crisis, and a strong incentive for Korean authorities to apply orthodox adjustment prescriptions. And it would be equally hard to deny that the relative openness of the Korean economy was a major determinant of that competitiveness. Korea's average nominal tariff was below 14 percent throughout the 1970s and 1980s, and only 10 percent of its imports were covered by a quota system [Sachs and Warner (1995), p. 29].

Neither Brazil nor Turkey were in the comfortable situation of having available an industrial base as competitive as in Korea, and that was arguably the legacy of decades of ISI policies. Even in the second half of the 1980s Brazil's average trade weighted tariff was still 46 percent [Dollar and Kraay (2001), p. 37], and Turkey's average nominal tariffs did not fall below 40 percent before 1989 [Sachs and Warner (1995), p. 93]. In addition, Turkey's quota coverage of imports was more than 85 percent throughout the 1970s and 1980s [Sachs and Warner (1995), p. 30]. In other words, the Brazilian and Turkish economies were still highly protected when hit by external shocks, and their industries were much less competitive than Korea's. Therefore in each of the two countries an orthodox adjustment programme would have produced higher adjustment costs relative to the size of the external shocks than in Korea. It stands to reason that the anticipation of high adjustment burdens in the short run has contributed to the governments' reluctance to implement decisive macroeconomic and structural adjustments.[8]

This possible causal link between trade policy and growth performance after external shocks enters Rodrik's analysis of the growth collapse in the 1970s only marginally. When he adds average tariff rates as an explanatory variable to his equations the result is an insignificant parameter. He does not attempt to answer the question of why this is the case. Among others, he does not probe further into the possible correlation between the quality of institutions and trade protection.

IV. DOES TRADE POLICY AFFECT GROWTH?

Correlation of Trade Restrictions and Quality of Institutions

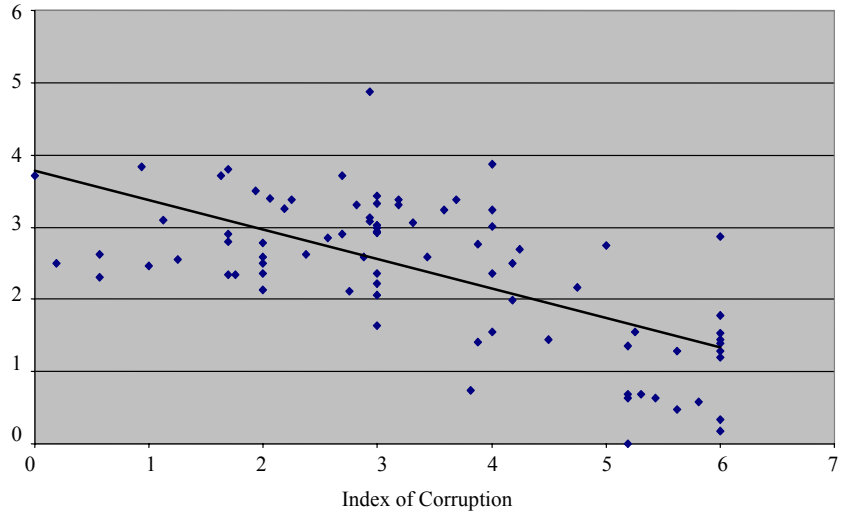
The correlation between trade protection and the quality of institutions is tested with two institutional indicators taken from Rodrik's analysis: the index of

[8]Of course, it is not clear that the costs of the heterodox stabilisation attempts in Brazil and the half-hearted adjustments in Turkey have indeed resulted in lower costs.

rule of law of "Political Risk Services"/"International Country Risk Guide" (average for the 1980s), and the Knack and Keefer (1995) measure of corruption (average for the 1980s).[9] The rule of law index is an integer variable ranging from 1 (low level of rule of law) to 6 (high level of rule of law). The index of corruption is a continuous variable, ranging from 0 (high level of corruption) to 6 (low level of corruption). The trade policy variable is the import-weighted average rate of tariffs taken from Sachs and Warner for the years 1985-88. This variable ranges from 0 percent (Hong Kong) to 130 percent (India). The sample comprises 76 countries for the corruption indicator and 83 countries for the rule of law indicator.

A straightforward analysis of the variables gives a sort of medium level correlation coefficients of –0.37 (rule of law) and –0.38 (corruption), both highly significant. However, it is difficult to perceive tariff rates as having a linear protection effect. It is reasonable to assume that the protection effect of each additional percentage point of tariff declines.[10] Such an indicator of declining marginal protection effects is constructed by taking (natural) logarithms of tariff rates.[11] The results of correlation analyses with the log indicator are shown in Figure 1 and Figure 2: the correlation coefficients between the trade policy indicator and the two institutional variables are –0.64 (corruption) and –0.67 (rule of law), and they are both highly significant.

Fig. 1. Correlation of Trade Protection and Corruption (n = 83, R = 0.64).

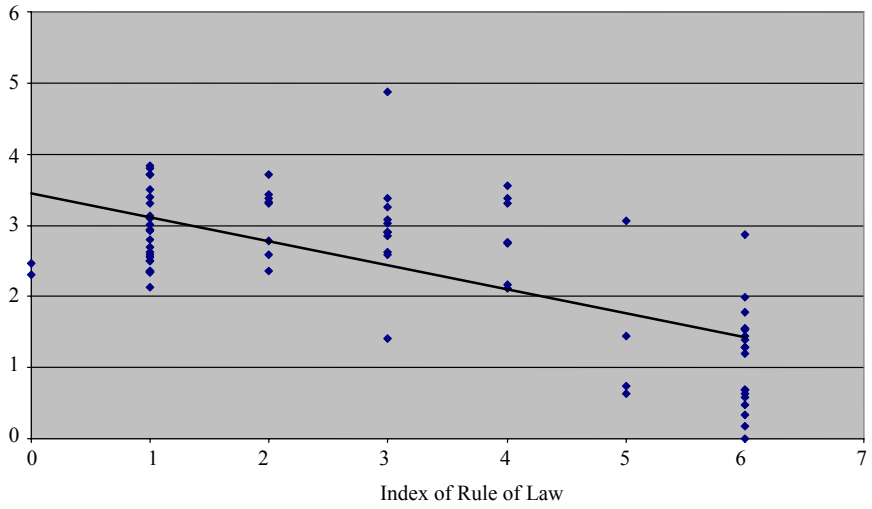


[9]The source of the data is the same as used by Rodrik, Easterly and Levine (1996).

[10]The Sachs-Warner indicator also reflects this assumption of non-linearity, where an economy is supposed to be closed if tariff rates exceed 40 percent.

[11]To avoid numerical problems in taking logarithms, Hong Kong's tariff rate has been set to 1 percent.

Fig. 2. Correlation of Trade Protection and Rule of Law (n = 76, R = 0.67).



The negative correlation between the level of trade protection and the quality of institutions can be explained from the point of view of the openness school of thought. High tariff rates do not only "protect" high production costs of inefficient ("infant") enterprises, but also high transaction costs resulting from low quality institutions. Hence, the hypothesis of ISI critics, that trade protection induces rent-seeking behaviour and low quality institutions, could be true. This issue will be taken up again in Section V.

The Impact of Trade Policy on Growth—The Rodrik Model Reformulated

The critical discussion of Rodrik's model and the negative correlation between the quality of institutions and trade protection suggests that his model can be contested by testing an alternative model based on an openness and trade policy hypothesis: not the low quality of institutions, but the anticipated short run burden of adjustment is the main cause of reduced growth rates after the external shocks of the 1970s. The anticipated burden is the higher, the higher the rate of protection and the lower the competitiveness of the industry. Alternatively, the Sachs-Warner index of openness is used as an explanatory variable. The regression equations replicate Rodrik's approach, but substitute his latent conflict indicators and institutional indicators by policy variables.

The dependent variable is the difference between per capita GDP growth rates 1960–76 and 1977–90, ΔGYPC. The explanatory variables are:

— the logarithm of per capita income in 1976 (LNYPC1), to capture convergence effects;
— the growth rate of GDP per capita 1960–1976(GYPC1), to capture trend effects;
— the absolute terms of trade changes 1970–80 (TOTABS), expressed in terms of shares of GDP, to capture the size of the external shock;
— the logarithm of the average tariff rates 1985–88 (LNTAR), to capture trade restrictions;
— the rate of coverage of non-tariff barriers for trade, in percent (QUOTA), to capture trade restrictions;
— alternatively the Sachs-Warner index (SWI; 1 = open, 0 = closed);
— dummy variables for Latin America (LA), East Asia (EA), and Sub-Saharan Africa (SSA), to capture regional fixed effects.

Table 2 contains the correlation coefficients between the variables. Correlation is high between LNTAR, SWI, and LNYPC1. In the regressions discussed below LNYPC1 was never significant and is therefore not reported. Likewise the non-tariff trade restriction variable (QUOTA) has always turned out to be insignificant and was also dropped from the regressions.

Table 2

Correlation Matrix of Variables Used for Regression

	ΔGYPC	LNYPC1	GYPC1	TOTABS	LNTAR	QUOTA	SWI	LA	EA	SSA
ΔGYPC	1,000									
LNYPC1	–0,109	1,000								
GYPC1	–0,330	0,479	1,000							
TOTABS	–0,213	0,000	0,264	1,000						
LNTAR	–0,045	-0,735	–0,459	–0,104	1,000					
QUOTA	–0,077	–0,311	–0,057	–0,202	0,328	1,000				
SWI	0,253	0,666	0,424	0,043	–0,721	–0,390	1,000			
LA	–0,379	0,024	–0,057	0,037	0,251	0,117	–0,302	1,000		
EA	0,333	–0,154	0,334	0,191	0,019	0,011	0,183	–0,231	1,000	
SSA	–0,063	–0,600	–0,367	0,032	0,336	0,052	–0,500	–0,303	–0,267	1,000

Data Sources: ΔGYPC, LNYPC1, GYPC1: World Bank, *World Development Report* (Various Issues).
TOTABS: Easterly, W., M. Kremer, L. Pritchett, and L.H. Summers (1993), and own calculations based on data from the World Bank, World Development Report, (Various Issues).
LNTAR, QUOTA, SWI: Sachs and Warner (1995).

The regression results are reported in Table 3. The hypothesis that the level of trade protection contributes to explain the growth collapse in the 1970s cannot be rejected at conventional levels of significance (Equations 1 and 2). Excluding India, the highest average tariff rates among developing countries in the sample are about 45 percent. The average tariff rates of "open" countries are around 5 percent. The difference of the logarithms of these values is 2.2. Equations 1 and 2 illustrate that the growth collapse is 1 to 1.4 percentage points smaller with an average tariff rate of 5 percent than with 45 percent. These values are similar to the parameters of the Sachs Warner index (Equations 3 and 4), which reflects the difference between the growth collapses of closed and open economies. Hence, the impact of trade policy and the Sachs-Warner policy mix on changes in growth performance is quite sizeable.

Table 3

Regression of Trade Protection on Income Growth
Dependent Variable is the Difference between Average Annual Growth of GDP Per Capita 1977–90 and 1960–76 (ΔGYPC)

	Equation 1	Equation 2	Equation 3	Equation 4
Intercept	1.378	1.407	–0.695	–0.938
	(0.061)	(0.059)	(0.200)	(0.009)
Income Growth 1960-76 (GYPC1)	–0.683	–0.659	–0.672	–0.664
	(0.000)	(0.000)	(0.000)	(0.000)
External Shock (TOTABS)	–0.283	–0.363	–0.278	–0.302
	(0.128)	(0.047)	(0.120)	(0.082)
Trade Protection (LNTAR)	–0.470	–0.654		
	(0.055)	(0.004)		
Sachs-Warner Index (SWI)			1.555	1.751
			(0.005)	(0.000)
Dummy Latin America (LA)	–1.732	–1.174	–1.287	–1.058
	(0.005)	(0.023)	(0.039)	(0.030)
Dummy East Asia (EA)	2.734	3.194	2.614	2.742
	(0.000)	(0.000)	(0.000)	(0.000)
Dummy Sub-Saharan Africa (SSA)	–0.993		–0.380	
	(0.090)		(0.550)	
Sample Size	77	77	77	77
Adjusted R^2	0.49	0.48	0.52	0.52

Note: p-values are given in brackets.

As in Rodrik's estimates the regional dummies for Latin America and East Asia are mostly significant, which means that the policy proxies used in the estimates are far from perfect. The increase of the size and significance of the trade policy and openness variable after omitting the SSA dummy can plausibly be explained by the fact that (apart from India) most of the "least open" economies can be found in Sub-Saharan Africa. Nonetheless, further empirical research with additional explanatory variables is required.

V. CONCLUSIONS

The empirical results presented in the previous section suggest that there is a positive effect of liberal trade policy, and other policies affecting openness, on growth in the medium run. The negative correlation between trade protection and low quality institutions and the regression results reported in Table 3 raise doubt about the alleged primacy of institutions. They indicate that the longer-term impact of ISI policies have contributed to "bad" policies after the external shocks of the 1970s. More openness through lower trade barriers would have resulted in "better" policies and better growth performance after the shocks had occurred. Reducing trade barriers is therefore a recommendable policy guideline.

The hypothesis that liberal trade policy promotes growth in the medium term is at least as plausible and empirically evident as Rodrik's institutional hypothesis. There is a solid theoretical basis and ample empirical evidence that high trade protection leads to non-competitive enterprises. This implies, among other things, that in the case of external (or internal) shocks orthodox adjustment produces higher short-term costs compared to more competitive economies. As politicians tend to avoid policies that burden constituencies and supporting interest groups in the short run, they refrain from orthodox adjustment—the more so the higher the adjustment costs and the lower the competitiveness.

However, it would be short-sighted to recommend only liberal trade policies as a panacea to overcome low growth rates. First, the Sachs-Warner study has shown that openness is influenced by more than just trade policy. Exchange rate policy, fiscal and monetary policy, and competition policy play an important role. The regression results in Table 3 with the Sachs-Warner index reconfirm the positive growth-effect of openness, composed of a liberal trade regime, domestic and external stability, and contestable domestic markets. Second, it is reasonable to assume that the quality of institutions influences growth and openness simultaneously. Given the negative correlation between trade protection and the quality of institutions, and taking into consideration Rodrik's empirical tests, these results allow for the conclusion that institutional reforms should augment and complement liberal trade policy, sound macroeconomic management, and micro policies that strengthen competition on domestic markets.

This call for a diversified reform agenda of policies and institutions in developing countries is shared by many proponents of the openness hypothesis. It is in strong contradiction to a reproach made by Rodriguez and Rodrik and other proponents of the institutional school of thought, who claim that the openness school of thought suffers from too narrow a focus on trade policy:

> "To the extent that the empirical literature demonstrates a positive causal link from openness to growth, the main operational implication is that governments should dismantle their barriers to trade" [Rodriguez and Rodrik (2000), p. 3].

Baldwin has recently rejected this rather one-sided interpretation quite forcefully:

> "Most of the authors of this literature would, I think, strongly object to this narrow interpretation of the policy implications of their work. While they generally favour the reduction of high tariff and non-tariff barriers in developing countries, these authors also call for policy changes aimed at eliminating large government deficits, curtailing inflationary monetary policies, maintaining market-oriented exchange rates, increasing competition among domestic firms, reducing government corruption, improving the education system, strengthening the legal system and so forth". [Baldwin (2003), p. 27].

The theoretical concepts and empirical results presented and discussed in the previous sections are in line with this statement: liberal trade policy should be part and parcel of a broad set of policy and institutional reforms. However, it must be noted that this conclusion does not go very far when it comes to policy recommendations for individual countries. Cross-national studies allow only for rather general conclusions, i.e. policy guidelines that promise to strengthen growth in the medium and long run. They are not helpful to design policy recommendations applicable for any single country at a given point in time. The optimal timing, sequencing, and speed of policy reforms must be determined in each case individually, taking into account a country's specific situation.

Disentangling the causal linkages behind the negative correlation of trade protection and the quality of institutions requires further research. One possible explanation was already given in the previous section. High trade barriers do not only protect high production costs but also high transaction costs caused by low-quality institutions. High trade barriers therefore are a sort of incentive for costly institutions. In other words, trade protection causes inappropriate and weakly enforced institutions. That is the story of ISI critics. Dismantling trade barriers then implies that the private sector will put pressure on the public sector to reduce transaction costs by improving institutional settings. In other words, trade liberalisation can contribute to improve the quality of institutions—a causal linkage that makes trade liberalisation also attractive for proponents of the institutional school of thought.

Of course, it cannot be excluded that causality goes from institutions to trade policy or that there are feedbacks. Future research on the cross-national level and the country level is required to better understand these interactions. Apart from that, it would also be interesting to learn more about a possible common root of high trade protection and the low quality of institutions. This would require investigating the role of political and societal "mind sets" that shape policies and institutions. After World War II the mind-sets in many developing countries were rather critical of a

market economy being a suitable model for development. Various types of socialist systems and state-led industrialisation (SLI) were implemented, and the resulting policies and institutional settings prevailed well into the 1970s and 1980s. Sachs and Warner (1995, p. 12), who use the term "intellectual beliefs" instead of mind-sets, estimate that until the end of the 1970s roughly one third of the world population lived in socialist countries, and about 50 percent in SLI countries.

Whatever the systemic characteristics in detail, the policies and institutional settings in many developing countries seem to have one common denominator: they largely neglect and contradict basic principles of a functioning market economy. In many developing countries the incentive system hardly contributes to sustain human and physical capital accumulation and total factor productivity growth. Many incomes are not generated in a competitive environment and based on productivity. Rent-seeking, i.e. the search for unproductive incomes, is a wide-spread phenomenon in these countries. As rent-seekers benefit from both trade protection and low quality institutions, it can be argued that a mind-set neglecting and contradicting basic principles of a functioning market economy is the common root of their simultaneous prevalence. To put it differently: high trade barriers, along with other policies suppressing competition and hampering competitiveness, and deficient or weakly enforced institutions could be the two sides of the same coin.

Finally, the effects of openness and institutions on poverty reduction should be investigated more directly. Of all the studies mentioned in this paper it is only Dollar and Kraay (2001a) who make an explicit link between openness, growth, and poverty reduction. Of course it is true that in the long run poverty is lowest where average incomes are highest. Moreover, Dollar and Kraay find a significant effect of growth on poverty in the medium term: x percent growth of per capita income goes along with the same x percent growth of the incomes of the poorest quintile of the population. Nonetheless, the authors fail to identify explicit pro-poor growth-policies (and institutions), and their results also illustrate that the growth of average incomes explains not more than 50 percent of the variance of income growth of the poorest quintile. Economic growth is not an end in itself, and one of the undisputed final goals is to free people from poverty. The detailed analysis of the impact of trade policies, other policies, and institutions on poverty deserves much more attention than it currently receives.

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Comments

First of all, let me congratulate the author for presenting a thought-provoking paper on issues of considerable importance to developing economies. The paper highlights the viewpoints of the "openness" and "institutional" schools of thought in the literature on economic growth and critically examines the findings of two studies: Sachs and Warner (1995) belonging to the openness school, and Rodrik (1998) belonging to the institutional school; and argues that the two viewpoints do not necessarily exclude each other. A major contribution of the study is to empirically demonstrate that the Rodrik model can be seen as supporting the view of the openness school of thought.

The study by Sachs and Warner examines the relationship between openness and economic growth based on a binary index of openness that takes into account five different aspects of trade policy, and shows that there is a positive and significant relationship between openness and economic growth. On the other hand, the institutional school of thought emphasises the beneficial impact of the quality of institutions on economic growth. Along this line, Rodrik (1998) empirically demonstrates that various indicators of institutional quality including participatory and democratic institutions, the rule of law, and social insurance are important determinants of economic growth.

To begin with, the author questions Rodrik's hypothesis that weak institutions lead to bad policies, and re-examines the experiences of South Korea, Turkey and Brazil in a different light. In particular, the author makes two very important observations. First, the author rightly argues that competitiveness of the South Korean industry, which was a direct result of its openness policies, enabled it to better manage the external shocks. On the other hand, Brazil and Turkey did not have such an advantage owing to years of import substitution policies. Consequently, the anticipation of high adjustment costs in the short run prevented these countries to initiate wide ranging structural reforms. Second, the author argues that the failure to implement structural adjustment programmes in Brazil and Turkey had more to do with the desire to avoid the burden of adjustment and less with weak institutions. Based on these observations, the author correctly points out that these country experiences can be seen as supporting the views of the openness school of thought rather than the institutional school of thought as in Rodrik (1998).

Next, the author examines the correlation between a trade policy variable—import weighted average rate of tariffs—and two indicators of institutional quality: the index of rule of law and the index of corruption. It is shown that there is a high negative correlation between trade policy and both indices of institutional quality. Based on this correlation between trade policy and indicators of institutional quality,

the author reformulates the Rodrik model to support his claim that this model also supports the view that openness plays an important role in the process of economic growth. The regression results indicate that the hypothesis that protectionist trade policies contributed to the growth collapse in the 1970s can not be rejected.

While these results do seem to substantiate the claim made by the author that even the Rodrik model, seen in a different light, lends support to the hypothesis that trade policy plays an important role in economic growth, it is hoped that future research, both theoretical and empirical, will build on the observations of the present study and further examine the inter linkages between trade policy, institutions, and economic growth. To understand the heterogeneous growth experiences of developing economies, it will be necessary to appreciate more fully the role of organisations and institutions. Some preliminary insights have been offered by North (1994, 1997), who emphasises that the incentive structure of society—which is fundamental for the process of change—is a function of the institutional structure of society. Moreover, one must recognise the difficulty of analysing the role of institutions in the process of economic growth. This partly stems from the complexity of the very notion of institutions. For example, North (1990) maintains that institutions are the rules of the game in society that shape human interaction, where the rules are taken to be formal rules such as constitutions, laws, and regulations as well as informal constraints such as norms of behaviour, conventions, and self-imposed codes of conduct. It is the mixture of such rules, norms, and enforcement characteristics that interacts with other variables such as trade policy to determine economic performance of a society.

The link between trade policy and institutional reforms has been well recognised in the literature. Trade reforms often involves the importation of institutions from abroad. Sometimes this is the outcome of deliberate policy actions to harmonize a country's economic and social institutions with those of its trading partners. Membership in the WTO, for example, requires the adoption of a certain set of institutional norms: non-discrimination in trade and industrial policies, transparency in the publication of trade rules, WTO-consistent patent and copyright protection, and so on. Furthermore, developing countries may have to initiate other institutional reforms to take advantage from the process of globalisation. However, institutional change is costly and requires the expenditure of scarce human resources and administrative capabilities. In this scenario, the challenge before researchers is to work out a strategy for developing economies that involves maximising the benefits from the process of globalisation while at the same time minimising the costs of institutional change.

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